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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,355	06/06/2001	Tomonari Sendai	Q64810	2938

7590 03/15/2007
SUGHRUE, MION, ZINN,
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2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

EXAMINER

SMITH, RUTH S

ART UNIT	PAPER NUMBER
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3737

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/874,355

Applicant(s)

SENDAI, TOMONARI

Examiner

Ruth S. Smith

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-16, 18-27, 29-42 and 44-46 is/are rejected.
- 7) ☒ Claim(s) 8, 17, 28 and 43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,9-11,18,19,29,30,32,33,34,44,45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. Wang et al. disclose a method for obtaining a computed, or ratioed, fluorescent light image and assigning color thereto to form a tissue-state (probability of dysplasia) and tissue-form ("contour lines" to highlight areas to be targeted for biopsy) image (0075) (see also fig. 9 and 10 and (0105) regarding fluorescence images conveying additional tissue-form information). Wang et al disclose assigning one of color and brightness to the reflected image and forming an overlaid (inherently matching the number of pixels) fluorescence and reflectance image. With respect to the recitation that the tissue-state image and the tissue-form image are initially separate images, in the absence of any showing of criticality, the intermediate product used to form the composite image would have been an obvious design choice.

Claims 3-6,12-15,20-26,35-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al as applied to claims 1,9,18,32 above, and further in view of Kaneko et al. Wang et al do not explicitly address assigning display gradation based on a statistical quantity. In the same field of endeavor, Kaneko et al. teaches that it is known to assign display gradation based on the maximum value and frequency (histogram) of the brightness levels of the image signals (col. 17 lines 3-20) to indicate normal or non- normal tissue. Kaneko further discloses using color discrimination scales and LUTS (inherently composed of a plurality of multiplication factors, or coefficients). See col. 16. lines 21-29. Further regarding claims 24 and 39, it is inherent that the computation circuit (141) of Kaneko et al processes data converted from the CCD in the form of 8 bits or less. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to assign the display gradation of Wang et al. based on statistical quantities, or histograms, of the image signals as demonstrated by Kaneko et al. to eliminate artifacts and provide enhanced visual discrimination between normal and diseased tissues and as is known in the art.

Claims 7,16,27,42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al as applied to claims 1,9,18,32 above, and further in view of Zeng et al. Wang et al. differ from the claimed invention in that the color data being a chromaticity is not discussed expressly. In the same field of endeavor, Zeng et al. demonstrates that assignment of colors based on a chromaticity system is well known (col. 9 lines 1-28, fig. 5). It would have been obvious at the time the invention was made to a person of ordinary skill in the art to use a chromaticity system as demonstrated by Zeng et al. for assignment of colors in the invention of Wang et al. as is well established in the art.

Claims 31,46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al as applied to claims 18,32 above, and further in view of Hayashi et al. Wang et al. differ from the claimed invention in that a GaN type laser is not specifically addressed for providing UV excitation. In the same field of endeavor, Hayashi et al. discloses that the use of a GaN semiconductor laser for providing excitation between 380-440 nm is inexpensive, has a long lifetime, and high efficiency output (col. 3 lines 26-33 and col. 12 lines 39-45). It would have therefore been obvious at the time the invention was made to a person of ordinary skill in the art to use a GaN laser as taught by Hayashi et al. to provide UV excitation in the invention as taught by Wang et al for the above described reasons.

Allowable Subject Matter

Claims 8,17,28,43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed February 12, 2007 have been fully considered but they are not persuasive. As previously stated by the examiner, with respect to the recitation that the tissue-state image and the tissue-form image are initially separate images, in the absence of any showing of criticality, the intermediate product used to form the composite image would have been an obvious design choice in that the end result of the method/apparatus is not affected by the intermediate product.

Conclusion

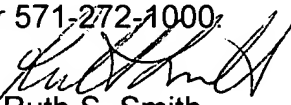
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth S. Smith whose telephone number is 571-272-4745. The examiner can normally be reached on M-F 7:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Ruth S. Smith
Primary Examiner
Art Unit 3737